



# The Science of Macroeconomics

## MACROECONOMICS

# Class Logistics

- Waitlist
  - In economics department faculty cannot issue PTAs at all. Economics undergraduate advising office handles waitlist and all enrollment decisions
- Lecture Capture
- Homework
  - Turn in via file upload on Canvas
  - If you write by hand, you need to be able to scan it
  - One file only (i.e. MS Word, PDF), no camera photos
- Written Assignments
  - 300-500 words each, uploaded via Canvas.

# IN THIS CHAPTER, YOU WILL LEARN:

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- about the issues macroeconomists study
- about the tools macroeconomists use
- some important concepts in macroeconomic analysis

# Important issues in macroeconomics

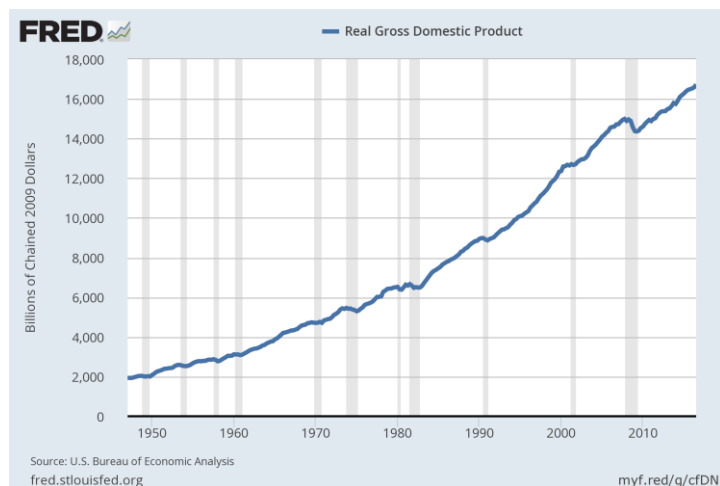
**Macroeconomics**, the study of the economy as a whole, addresses many issues in the news

*e.g.:*

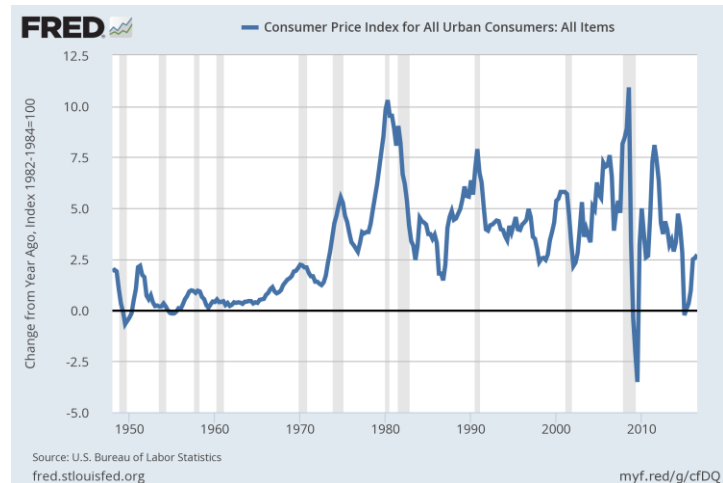
- What is monetary policy, what should monetary policy be, and how should it be implemented?
- Why are so many countries poor? What policies might help them grow out of poverty?
- What are the causes of recessions and expansions? What policies should governments implement related to the business cycle?

# Key Macro Variables

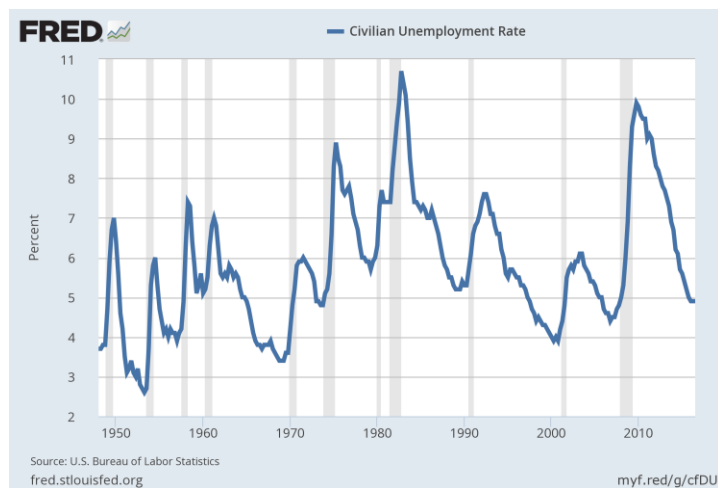
## Gross Domestic Product (GDP)



## Inflation



## Unemployment Rate



# Economic models

...are simplified versions of a more complex reality

- irrelevant details are stripped away

...are used to

- show relationships between variables
- explain the economy's behavior
- devise policies to improve economic performance

# Example of a model:

## Supply & demand for lattes

- shows how various events affect price and quantity of lattes bought and sold
- assumes the market is competitive: each buyer and seller is too small to affect the market price

### Variables

$Q^d$  = quantity of lattes that buyers demand

$Q^s$  = quantity that producers supply

$P$  = price of lattes

$Y$  = aggregate income

$P_{milk}$  = price of milk (an input)

# Supply & demand for lattes

demand equation:  $Q^d = f(P, Y)$

- shows that the quantity of lattes consumers demand is related to the price of lattes and aggregate income

supply equation:  $Q^s = f(P, P_{milk})$

- Shows the quantity of lattes produced is related to the price of lattes and the price of milk.



# Endogenous vs. exogenous variables

- The values of **endogenous** variables are determined in the model (use the model to solve for them).
- The values of **exogenous** variables are determined outside the model: the model takes their values and behavior as given.
- In the model of supply & demand for lattes,  
endogenous:  $P, Q^d, Q^s$   
exogenous:  $Y, P_{milk}$

# The use of multiple models

- No one model can address all the issues we care about.
- So we will learn different models for studying different issues (e.g., unemployment, inflation, long-run growth or GDP).
- For each new model, you should keep track of
  - its assumptions
  - which variables are endogenous, which are exogenous
  - the questions it can help us understand, those it cannot

# Prices: flexible vs. sticky

- **Market clearing:** An assumption that prices are flexible, adjust to equate supply and demand.
- In the short run, many prices are **sticky** – adjust sluggishly in response to changes in supply or demand. For example:
  - many labor contracts fix the nominal wage for a year or longer
  - iTunes has changed its prices infrequently (e.g. \$0.99 to \$1.29, some \$0.69 sales)

# Prices: flexible vs. sticky

- The economy's behavior depends partly on whether prices are sticky or flexible:
  - If prices sticky (short run), demand may not equal supply, which explains:
    - unemployment (excess supply of labor)
    - why firms cannot always sell all the goods they produce
  - If prices flexible (long run), markets usually clear and economy behaves very differently